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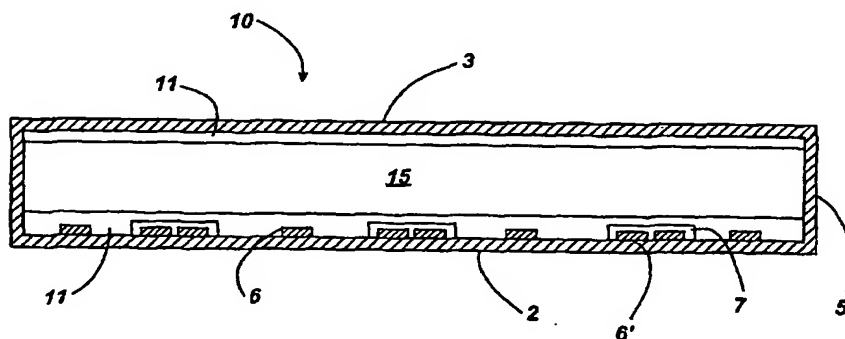
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(54) Title: VUV-EXCITED DEVICE WITH BLUE-EMITTING PHOSPHOR



(57) Abstract: Blue-emitting phosphors for use with plasma display panels (PDP) or other vacuum ultraviolet-excited (VUV) devices are provided. These blue-emitting phosphors and mixtures thereof include at least a europium-activated calcium-substituted barium hexa-aluminate (CBAL) phosphor. Preferably, the CBAL phosphor has a composition which may be represented by the formula:  $\text{Ba}_{1.29-x-y}\text{Ca}_x\text{Eu}_y\text{Al}_{12}\text{O}_{19.29}$ , wherein  $0 < x < 0.25$  and  $0.01 < y < 0.20$ .

These blue-emitting phosphors exhibit improved degradation characteristics, including reduced color shift and increased intensity maintenance, under conditions found in VUV-excited devices.

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## INTERNATIONAL SEARCH REPORT

International application No.

PCT/US04/15079

**A. CLASSIFICATION OF SUBJECT MATTER**

IPC(7) : H01J 1/62, 63/04; C09K 11/64

US CL : 313/486; 252/301.4r

According to International Patent Classification (IPC) or to both national classification and IPC

**B. FIELDS SEARCHED**

Minimum documentation searched (classification system followed by classification symbols)

U.S. : 313/486,487,489; 252/301.4r

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practicable, search terms used)

**C. DOCUMENTS CONSIDERED TO BE RELEVANT**

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
A	US 3,670,194 A (Thornton et al) 13 June 1972 (13.06.1972).	1-20
A	US 4,733,126 A (Yamakawa et al) 22 March 1988 (22.03.88).	1-20
A	US 4,827,187 A (Verlijdonk) 2 May 1989 (02.05.1989).	1-20
A	US 5,471,113 (De Backer et al) 28, November 1995 (28.11.1995).	1-20
A	US 2002/0025901 A1 (Ono et al) 28 February 2002 (28.02.2002).	1-20

☐ Further documents are listed in the continuation of Box C.☐ See patent family annex.

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